

REMARKS

Claims 49, 53 and 54 stand rejected as failing to comply with 35 U.S.C. 112, first paragraph. Applicant has cancelled claims 49 and 54 and amended claim 53 to address these issues. Applicant respectfully submits that these issues are now moot.

Claims 41-42, 47-49 and 59-63 stand rejected under 35 U.S.C. 103(a) as being unpatentable over International Patent Publication WO 97/06940 to Chapman (U.S. Patent No. 6,153,132 hereinafter, 'Chapman '132') in view of U.S. Patent No. 6,457,532 to Simpson (hereinafter, 'Simpson'). Applicant has amended the claims to further define the invention over the cited art. Applicant reserves the right to pursue any cancelled subject matter in one or more continuation applications. Applicant traverses the rejections for the reasons set forth below.

In particular, amended claim 41 is directed to a method of producing oriented plastic tube which recites, *inter alia*:

performing a continuous sequence using a variable diameter calibrator upstream of a diametrical expansion apparatus, the sequence including

- (i) setting the variable diameter calibrator in order to continuously produce a tube having a start-up inner diameter and a start-up outer diameter selected to facilitate passage of the tube over the diametrical expansion apparatus;**
 - (ii) passing the tube of (i) over the diametrical expansion apparatus;
 - (iii) adjusting the variable diameter calibrator in order to continuously produce a tube having a first adjusted outer diameter less than the start-up outer diameter, the first adjusted outer diameter selected to facilitate passage of the tube over the diametrical expansion apparatus for diametrical expansion of the tube;**
 - (iv) temperature conditioning the tube of first adjusted outer diameter;
 - (v) using the diametrical expansion apparatus to diametrically expand the tube of (iv) into an oriented tube having a second outer diameter larger than the first adjusted outer diameter; and
 - (vi) cooling the oriented tube of (v),

wherein the variable diameter calibrator is adjusted to actively vary the first adjusted outer diameter in order to control circumferential draw of the oriented tube of v) during performance of the continuous sequence without stopping continuous production of the tube (emphasis added).

The cited prior art does not teach or suggest these limitations.

Chapman discloses a sizing sleeve 13 (FIG. 1) which is a fixed diameter device used to set the diameter of an extruded tube. Such a fixed sizing sleeve 13 is inherently incapable of adjusting the outer tube diameter as recited in claim 41. Moreover, even if a different sized sizing sleeve were inserted into the product line of Chapman to change the outer tube diameter, such substitution would require shutting down the product line. Thus, Chapman does not disclose or suggest the use of a variable diameter calibrator upstream of a diametrical expansion apparatus, the use of a variable diameter calibrator to adjust the outer diameter of the tube to a first adjusted outer diameter less than the initial outer diameter, and the adjustment of the variable diameter calibrator to actively vary the first adjusted outer diameter in order to control circumferential draw of the oriented tube during performance of the continuous sequence without stopping continuous production of the tube as recited by claim 41.

The Examiner has offered Simpson to purportedly disclose a variable diameter calibrator which could be substituted for the fixed sleeve 13 of Chapman. Such analysis is misguided as Simpson describes rollers that interface to the inner wall of a pipe to cause the outer diameter of the pipe to increase by outward plastic deformation. In contrast, the operation in iii) of the method of claim 41 recites "adjusting the variable diameter calibrator in order to continuously produce a tube having a first adjusted outer diameter less than the start-up outer diameter, the first adjusted outer diameter selected to facilitate passage of the tube over the diametrical

expansion apparatus for diametrical expansion of the tube." This decrease in outer diameter cannot be accomplished by the rollers of Simpson. Instead, the rollers of Simpson function to increase the outer diameter of the pipe. Moreover, Simpson does not teach or suggest adjusting the variable diameter calibrator to actively vary the first adjusted outer diameter in order to control circumferential draw of the oriented tube during performance of the continuous sequence without stopping continuous production of the tube as recited by amended claim 41. Thus, Simpson fails to teach or suggest important limitations of claim 41.

It is also submitted that the teachings of Chapman are not properly combinable with Simpson because these two references are in two different fields and Simpson is not reasonably pertinent to the particular problem being solved by the present invention. Chapman is in the field of processes and apparatus for the manufacture of oriented plastic tubes. Simpson is in the field of methods and apparatus for joining metal pipes in downhole well applications. A person of ordinary skill in the art of either one of these fields will not refer to the other field in solving problems that he/she faces. Moreover, Simpson is not reasonably pertinent to the particular problem being solved by the present invention - the control of circumferential draw of an oriented tube during its manufacture. Instead, Simpson is directed to the problem of joining the ends of two metal pipe sections together for downhole well applications (particularly hydrocarbon exploration and production).

The other cited prior art to Lenthe does not remedy the shortcomings of Chapman and Simpson.

For these reasons, claim 41 is clearly patentable over the cited prior art. Similar arguments apply to the other independent claim 48.

The dependent claims are patentable over the cited prior art for those reasons advanced above with respect to claims 41 and 48 from which they respectively depend and for reciting additional features that are not taught or suggested by the cited prior art.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,

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